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ABSTRACT

Means-end analysis was used to examine the linkages between elements of an Outward Bound course and the personal benefits and outcomes obtained or reinforced by course completion. A self-administered questionnaire was completed by 216 persons, who completed a course at the North Carolina Outward Bound School. Respondents were aged 14-66 (83 percent were 14-18) and had completed a course lasting 4-21 days (half completed a 21-day course). The questionnaire asked respondents about key outcomes of the course they completed, why a particular outcome was important to them, and why the response given was important. A series of responses linking a particular outcome to a personal value is called a ladder. A computer program--LadderMap--helped construct hierarchical value maps (HVMs), which provided a graphical summary of linkages between program attributes, consequences, and values. The HVM generated for the entire sample represented 62 percent of the associations among concepts in respondents' ladders. Primary attributes listed by participants included overall course, specific course components, interactions, rock climbing, expeditioning, and campcraft. Significant consequences were relationships with others, knowledge, and personal growth. Significant values were transference, self-awareness, self-confidence, and personal goals. The HVM strongly linked rock climbing with determination/perseverance and relationships/teamwork; personal growth with self-confidence; and overall course with nature appreciation, physical fitness, and interpersonal relationships. (Contains 23 references) (SV)

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# Using Means-End Theory to Understand The Outdoor Adventure Experience

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# USING MEANS-END THEORY TO UNDERSTAND THE OUTDOOR ADVENTURE EXPERIENCE

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## INTRODUCTION

According to Ford (1981), outdoor education is "education in, about, and for the outdoors, implying a place, a topic, and a reason" (p. 14). Another working definition stated that outdoor education is "an experiential method of learning which takes place primarily through sensory involvement with the out-of-doors" (Priest & Gass, 1997, p. 17). Priest and Gass also defined outdoor adventure programs as those that use challenging experiences in the outdoors to promote personal and group development.

This research developed a better understanding of the linkages between outdoor adventure program (Outward Bound) experiences and outcomes using means-end analysis. Previously the means-end approach had been used to understand the outcomes of recreational participation in a ropes course program (Goldenberg 1997; Goldenberg, Klenosky, O'Leary, & Templin, 2000). To date, however, means-end analysis had not been used to examine the outcomes of broader outdoor program experiences, such as an Outward Bound course. According to Goldenberg et al. (2000), "additional research should be conducted to better understand this benefit and determine its role and generalizability in other... adventure education settings" (p. 221-222).

## BACKGROUND

Research in outdoor education has expanded over the past several years and there has been an increased emphasis on examining the outcomes of outdoor education experiences. Means-end analysis goes beyond looking simply at the benefits from participating in an outdoor education experience. Means-end theory examines the linkages between the benefits and other higher-level outcomes and important personal values.

Means-end theory and its associated methodology, known as laddering, were developed to understand how consumers think about products or services (Gutman, 1982; Reynolds & Gutman, 1988). "Means-end theory seeks to characterize the relationships among particular objects or behaviors, 'the means,' and the outcomes and personal values important to the individual, 'the ends'" (Klenosky, Frauman, Norman, & Gengler, 1998, p. 27). More specifically, the theory characterizes the relationships among three key concepts: attributes, consequences, and personal values. Attributes refer to the characteristics of the product or service. For an Outward Bound course, some of the attributes include the length of the course, location of the course, activities done while on course, and the number of individuals in the group. Consequences refer to the benefits, which are the desired outcomes, and also costs/risks, or undesirable outcomes. Consequences for an Outward Bound course may be that participants learn to work together, learn skills that are needed to function in the outdoor setting, or just learn limitations and strengths as an individual or group. Personal values refer to "highly abstract consequences that summarize desired end-states of being" (Goldenberg et al., 2000, p. 212). Values that may be important for Outward Bound participants include a sense of belonging, excitement, self-fulfillment, fun and enjoyment of life, and a sense of accomplishment.

Rather than treating these three elements, the attributes, consequences, and values as independent of each other, means-end theory is based on the view that these three elements are

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fundamentally interrelated. Specifically, according to the theory, product/service attributes represent the "means" by which consumers obtain desired consequences/benefits (as well as avoid undesired consequences/costs) and achieve important personal values or "ends" (Gutman, 1982).

Means-end theory has typically been applied to better understand consumer decision-making behavior in a variety of product/service settings. For example, means-end studies have been conducted to examine the factors involved in purchasing a greeting card (Walker & Olson, 1991), selecting a ski destination (Klenosky, Gengler, & Mulvey, 1993), selecting a spring break destination (Klenosky, 2002), and selecting among state park interpretive programs (Klenosky et al., 1998). The means-end approach was also applied to examine ropes course outcomes (Goldenberg, 1997; Goldenberg et al., 2000). The current study was unique in that it was the first application of means-end theory to involve outdoor adventure programming. It was also unique in that it applied means-end theory to understand the factors associated with consumption or participation rather than those involved in product or service decision-making.

## PURPOSE OF STUDY

The research reported here built on the foundation of the earlier ropes course study by examining a broader outdoor adventure experience. More specifically, the purpose of this research was to use the means-end approach to develop a better understanding of the outcomes obtained from completing an Outward Bound course. Specifically, the study examined the linkages between the attributes of the service/program experienced (in this case, the elements of an Outward Bound course) and the benefits and higher-level outcomes and personal values obtained or reinforced by completing the course.

## LITERATURE REVIEW

Before continuing, it is useful to understand how this research contributes to the broader outdoor adventure education literature.

Outdoor adventure education programs are a form of experiential education. Experiential education is "learning by doing." John Dewey was one of the first educators who wrote about and practiced experiential learning. "Dewey's learning sequence included both theory and experience" (Wurdinger & Priest, 1999, p. 187). Characteristics of experiential education that have been associated with effective student learning include that experience is the best teacher, humans do learn by doing, using all senses to learn is effective, knowledge should be acquired through experience, and "the *what* and the *how* are inseparable counterparts for good teaching" (Freeberg & Taylor, 1963, p. 3). Experiential education can occur in various settings, such as ropes courses, climbing walls, service learning, internships, classroom instruction, and wilderness adventures.

Wilderness trips occur in the wilderness setting, a setting that humans do not control. A wilderness area is a physical and conceptual place, which is "relative rather than an absolute conception and condition" (Miles, 1999, p. 321). The wilderness provides an environment for challenge, growth, and development of both individuals and groups. The wilderness is used by millions of people every year for individual growth and challenge, group dynamics, and therapeutic intentions (Ewert & McAvoy, 2000). According to Friese (1996) over 700 organizations offer wilderness programs for personal growth, and according to Gager (1996), these programs are increasing in numbers by about 15 percent per year.

Common features of outdoor adventure education programs include the setting in which they occur, which is usually the outdoors or a wilderness setting. They usually involve small groups, ranging in sizes up to 16 people. They usually require mastery of skills to meet physical and/or mental challenges that the individual or group may face. These challenges involve group problem solving and decision-making skills. Usually with outdoor education programs, the leader acts more as a facilitator or instructor and not as a guide or a leader. Pro-

grams can require a variety of physical activities and challenges (Hattie, Marsh, Neill, & Richards, 1997), such as backpacking or rock climbing.

Outward Bound is an example of an outdoor education program that has contributed to the quality of outdoor education programs. Outward Bound was founded on quality and safety, dedicated to true adventure and making a difference in people's lives (Hirsch, 1999). The core values/pillars of Outward Bound programs are physical fitness, craftsmanship, self-reliance, and compassion. Hattie et al. (1997) reported that in 1994 there were over 40,000 participants in Outward Bound programs worldwide. Today, Outward Bound has over 50 schools in 25 nations on five continents. Outward Bound has set the standard on adventure programming through its leadership, curriculum, and programming.

The Hattie et al. (1997) study examined the effects of adventure programs on a diverse array of outcomes, such as self-concept, locus of control, and leadership. Hattie et al. encouraged others to conduct research in the field and not write articles that are "commercials" for their programs. Their study used a meta-analysis to synthesize the findings across many different investigations. A key finding was that the effects of adventure programs on self-esteem exceeded the effects obtained from other educational programs.

Hattie et al. (1997) suggested that future research "move towards evaluating multiple outcomes and investigating the relation between program characteristics and outcomes" (p. 71). They suggested a need to move from outcomes to theory and process studies. Hattie et al. (1997) discussed four premises about the positive effects of adventure education programming and stated that these premises could be the basis for future research. The four premises included quality of experience, obtaining designed goals, amount and quality of feedback, and examining the individual's coping strategies. "Research on group development in organized wilderness group programs is just beginning and will probably continue to develop as a major research theme" (Ewert & McAvoy, 2000, p. 15). Ewert and McAvoy encouraged researchers to look at the how and why of programming, versus only looking at the what and when of the program. Ewert (1987) suggested that the researcher look beyond the outcomes generated from an outdoor adventure activity and to "provide an understanding as to why it happened and how it can be made to happen again" (p. 5). In short, the current means-end investigation sought to contribute to our understanding of these key why and how questions associated with outdoor adventure programming.

## METHODOLOGY

A total of 216 North Carolina Outward Bound School (NCOBS) participants who completed selected courses during the summer of 2001 provided the data for this research. Participants were diverse in age, background, culture, and religion. A self-administered questionnaire was used, and 10% of non-respondents were interviewed in a follow-up telephone study. The self-administered questionnaires, adopted from Goldenberg et al. (2000), Walker and Olson (1988), Botschen and Hemetsberger (1998), and Pieters, Botschen, and Thelen (1998), were used to collect data from the participants. Frauman and Cunningham (2001) stated that "means-end relationships could be identified utilizing traditional self-administered survey-based methods" (p. 109).

Research experts reviewed the questionnaire, and a pilot test was conducted with high school students and outdoor trip leaders. NCOBS representatives worked closely with the researcher to develop the instrument and a pilot test of the questionnaire was also administered to NCOBS participants in May 2001.

The questionnaire contained three sections. The first section included demographics, the second section asked respondents to identify the key outcomes they obtained from the Outward Bound course they had just completed, and finally, respondents were asked why a particular outcome was important to them. Respondents

were probed further to explain why the response given (which typically referred to a higher-level outcome) was important. This series of questioning–which led the respondents to link the original outcome to one or more higher-level outcomes, and ultimately to a personal value–is referred to in the means-end literature as "laddering" (Reynolds & Gutman, 1988). Similarly, the series of responses linking a particular outcome to a personal value is referred to as a ladder. An example from this data of a ladder includes the attribute of "the completion of the course" (course completion), followed by the consequence of "I had doubts about whether I could complete the course well" (personal challenges), which linked to the value of "completing it made me feel I accomplished something" (a sense of accomplishment).

### Data Analysis

The data obtained from each respondent was edited and entered into a computer program called LadderMap (Gengler & Reynolds, 1995). As the concepts were entered into the program, content codes were formed based on phrases or key words that emerged. These content codes were coded by two researchers, reviewed by an independent coder, and then reviewed by two faculty members. A series of hierarchical value maps (HVMs), which provided a graphical summary of the relationships and links between the attributes, consequences, and values were then constructed. Each HVM summarized the key linkages among the outcomes and personal values that emerged from content analysis procedures. While creating the HVMs, the researcher determined which items and relationships should be represented and where these items should be placed on the HVM (Goldenberg et al., 2000) (Figure 1). The size of the circle representing an outcome reflected the number of respondents who mentioned the concept, while the thickness of the lines on the HVM connecting the circles reflected the number of times the outcomes were linked together. The larger the circle or the thicker the line, the more frequently the concept or linkage occurred.

The relationship among the concepts on the HVM provided useful insight into the outcomes and higher-level values associated with the experience of participating in an Outward Bound course. The concrete outcomes at the bottom of the map are the key aspects that help create the higher value outcomes shown at the top of the map.

### Results and Analysis

Of the 294 questionnaires that were distributed to course participants, a total of 216 were returned, representing a 73.5% return rate. Study participants ranged in age from 14-66 years old, with most (83.3%) between 14 to 18 years old. Participants completed courses ranging in length from 4 to 21 days, with half (50%) lasting 21 days. The majority of respondents were male (57.4%), white (84.3%), and also students (90.3%). Twenty-three percent received a scholarship to attend Outward Bound. A large majority of participants (92.6%) would recommend an Outward Bound course to a friend.

Content categories, or themes, were generated from the data. The list of attributes yielded 15 categories ranging from the entire course to specific course components, such as solo or rock climbing. Fourteen different codes for the consequences were generated, and eight value codes were created. The content codes were developed first by two researchers working together, then by an independent coder who examined 30% of the data, and finally by a third and forth researcher who reviewed the codes and coding assignments.

The hierarchical value map (or HVM) generated for the entire sample, shown in Figure 1, is based on a cutoff point of nine associations between concepts which represents 62.1% of the associations among the concepts in respondents' ladders (for a discussion of the details involved in creating an HVM see Goldenberg et al., 2000). The primary attributes listed by participants in their order of response included the overall course, course components, interactions, rock climbing, expeditioning, and campcraft. The significant consequences included relationships with others, knowledge, and personal

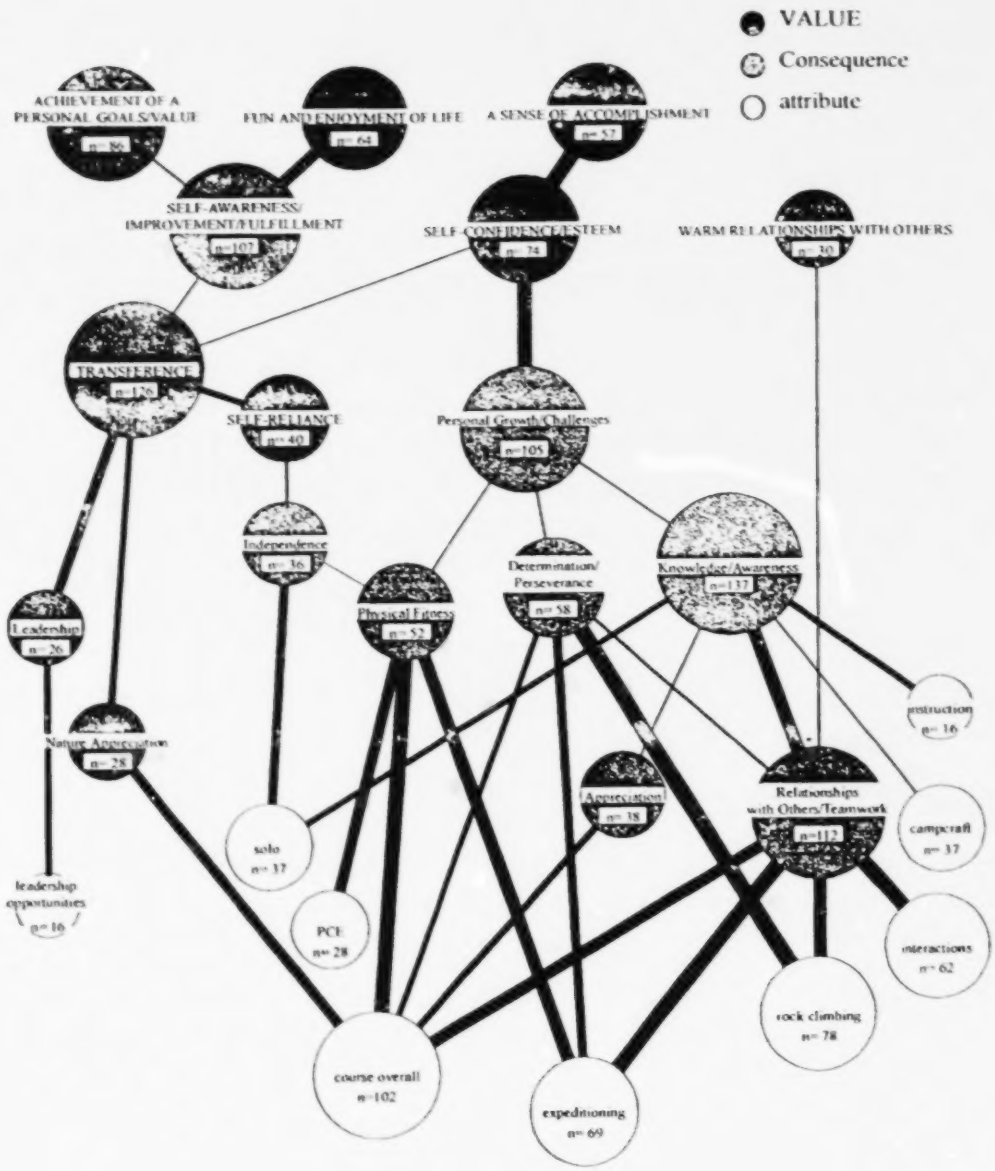


*Figure 1.* Hierarchical Value Map for Outward Bound Participants (n=216).

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growth/ challenges. The significant values were transference, self-awareness, self-confidence, and personal goals/values.

Strong associations on the map linked rock climbing to determination/perseverance and also rock climbing to relationships with others/teamwork. Another strong link on the map was from personal growth/challenges to self-confidence/esteem. The course overall led to nature appreciation. The attribute of interactions was strongly associated with relationships with others/teamwork. There were several strong links from course overall to various consequences, such as physical fitness and relationships with others/teamwork.

Due to the cutoff selected, only nine of the 15 attributes were included on the map. The attributes not included on the map were canoeing, course beginning/completion, course challenges, environment, new experiences, and time management. Also, only 9 of the 14 consequences appeared on the map. The consequences that did not appear included achievement, efficient, patience, reflection, and survival. All eight of the values appeared on the HVM.

## IMPLICATIONS

The data from this study helped contribute to our understanding of the outcomes and benefits obtained from participating in an outdoor adventure program. As Ewert and McAvoy (2000) have noted, "Despite the importance and popularity of the issues associated with group dynamics, there have been relatively few systematic studies done under the rubric of organized groups in wilderness settings" (p. 17). This research contributed to our current understanding of outdoor education programs and simultaneously added to the growing studies based on means-end theory.

It is not unusual in experiential education research to borrow and apply theories from other fields. As evidenced in the present research, means-end theory provides another useful and intuitive framework for increasing our understanding of outdoor adventure and experiential programming.

Traditionally, means-end analysis had been used to understand the bases of product and service choice. The present means-end investigation builds on recent efforts to enhance our understanding of outdoor adventure education programming, and expands the range of settings from the relatively narrow focus of a ropes course to the broader experience afforded by a wilderness-based multi-day outdoor education program. Future research should be conducted to examine the outcomes associated with other forms of outdoor adventure experiences, such as kayaking, canoeing, mountain biking, mountain climbing, or even extended wilderness adventures such as hiking the Appalachian Trial.

In addition to its theoretical contributions, the present investigation holds useful implications for outdoor education practitioners. In particular, the study results can help practitioners develop a better understanding of the attributes, consequences, and values obtained by participating in an outdoor adventure experience. Knowledge of these elements, in particular knowledge of how the three elements are interrelated, can be used in a variety of ways, such as to help develop programs, train staff, write grants, and to create marketing and promotional materials. For example, a program can customize a course for a particular group of individuals by using certain attributes of a wilderness experience to lead to desired values.

Finally, as with any investigation, the present study suggests a number of useful directions for future research. First, future efforts should examine the consequences and values associated with specific attributes or specific program elements. Another possibility would be to compare respondent subgroups to examine similarities and differences in the means-end chains obtained. A different direction would be to compare the data obtained in the present study, which relied on self-administered questionnaires, to data obtained using personal inter-

views. Lastly, in contrast to this study, which focused only on the immediate outcomes of participation, future studies could be conducted to examine the long-term impacts of outdoor adventure experiences. For example, future research could be conducted to explore the issue of whether "transference," one of the more interesting findings of the present study, did occur.

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